

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application. Please amend the claims, as follows:

1-16. (Canceled)

17. (Currently Amended) A radio telephony network supporting at least one link of a radio channel for a packet data transmission service, the network comprising:

a plurality of network controllers, each network controller being connected via an interface to at least one base radio station, the at least one base radio station supervising at least one macrocell; and

at least one base radio microstation connected to a network controller in the plurality of network controllers via an interface of the same type as that connecting the at least one base radio station to the network controllers, the at least one base radio microstation supervising at least one microcell incorporated in the at least one macrocell and centered at a point different from the point at which the at least one macrocell is centered, the at least one base radio microstation providing the packet data transmission service in the at least one microcell on the at least one link of the radio channel using a multi-carrier radio access, and the at least one base radio station providing the packet data transmission service in areas of the at least one macrocell other than in the at least one microcell,

wherein at least one base radio station providing the packet data transmission service includes at least one protocol structure comprising a first set of protocol levels

for transmitting packet data according to a first type of radio access used in the at least one macrocell and a second set of protocol levels for transmitting packet data according to the multi-carrier radio access used in the at least one microcell, the second set of protocol levels including a physical level and at least one protocol level located above the physical level for controlling the multi-carrier radio access, wherein the second set of protocol levels provides packet data transmission without modifying higher levels and protocols in the first set of protocol levels.

18. (Canceled)

19. (Previously Presented) The network as claimed in claim 17, wherein said multi-carrier radio access is of the OFDM type.

20. (Previously Presented) The network as claimed in claim 17, wherein each base radio microstation comprises a central switch and a plurality of access ports connected to said central switch by a cable.

21. (Previously Presented) The network as claimed in claim 17, wherein each base radio microstation comprises a protocol structure including a first protocol level and a second protocol level located above said first protocol level, said first protocol level being a physical level and said second protocol level being a data transmission level.

22. (Previously Presented) The network as claimed in claim 21, wherein said first protocol level comprises circuit components for processing a multi-carrier radio signal, said multi-carrier radio signal being formed from a plurality of radio carriers associated with data to be transmitted.
23. (Previously Presented) The network as claimed in claim 22, wherein said circuit components for processing said multi-carrier radio signal comprise at least one of dedicated circuits and programmable DSPs.
24. (Previously Presented) The network as claimed in claim 21, wherein said data transmission level comprises an access control sub-level including a logical entity for controlling said multi-carrier radio access.
25. (Previously Presented) The network as claimed in claim 24, wherein said logical entity maps logical channels on transport channels.
26. (Previously Presented) The network as claimed in claim 24, wherein said logical entity implements functions of retransmission of incorrectly received data packets.
27. (Previously Presented) The network as claimed in claim 24, wherein said logical entity implements scheduling functions.

28. (Previously Presented) The network as claimed in claim 24, wherein said access control sub-level comprises a frame protocol for controlling the transport of said multi-carrier radio signal between said at least one base radio microstation and the network controller connected to it.

29. (Previously Presented) The network as claimed in claim 28, wherein a central switch comprises said logical entity and said frame protocol, the central switch being connected to a plurality of access ports and each access port comprises said first protocol level including said circuit components for processing said multi-carrier radio signal.

30. (Previously Presented) The network as claimed in claim 22, wherein each network controller comprises an access control sub-level, and a frame protocol for controlling the transport of said multi-carrier radio signal within said network controller or between said network controller and the base radio microstation connected to it.

31. (Previously Presented) The network as claimed in claim 22, wherein said at least one base radio microstation can provide said packet data transmission service to at least one user equipment located in the microcell served by said base radio microstation, said user equipment having a protocol structure including a physical level comprising circuit components for demodulating said multi-carrier radio signal.

32. (Previously Presented) The network as claimed in claim 17, wherein said at least one link of said radio channel is a downlink.

33. (Previously Presented) The network as claimed in claim 17, wherein the at least one microcell corresponds to a high traffic area within the at least one macrocell.

34. (Previously Presented) The network as claimed in claim 17, wherein the at least one link of the radio channel comprises at least one downlink.

35. (Previously Presented) The network as claimed in claim 34, wherein the at least one downlink supports orthogonal frequency division multiplexing.

36. (Currently Amended) A method of providing a packet data transmission service in a network, the network comprising at least one macrocell and at least one microcell located within the at least one macrocell, the method comprising:

providing, using at least one base radio station in the at least one macrocell, the packet data transmission service using a first type of radio access;

providing, using at least one base radio microstation in the at least one microcell, the packet data transmission service using a multi-carrier radio access different from the first type of radio access; and

updating at least one base radio station providing the packet data transmission service from using the first type of radio access to using the multi-carrier radio access, wherein the updating occurs at the at least one base radio station and the at least one base radio station includes at least one protocol structure comprising a first set of

protocol levels for transmitting packet data according to a first type of radio access used in the at least one macrocell and a second set of protocol levels for transmitting packet data according to the multi-carrier radio access used in the at least one microcell, the second set of protocol levels including a physical level and at least one protocol level located above the physical level for controlling the multi-carrier radio access, wherein the second set of protocol levels provides packet data transmission without modifying higher levels and protocols in the first set of protocol levels.

37. (Previously Presented) The method as claimed in claim 36, wherein the first type of radio access is CDMA radio access.

38. (Previously Presented) The method as claimed in claim 36, wherein the multi-carrier radio access is OFDM radio access.

39-42. (Canceled)